

**Instructor:**

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**Textbook:**

Khalid Sayood, Introduction to Data Compression, Forth Edition, Morgan Kaufmann, 2012.

**Outline:**

- Introduction to Multimedia Compression
- Lossless data compression techniques
  - ✓ Mathematical background on lossless data compression
  - ✓ Huffman coding
  - ✓ Arithmetic coding
  - ✓ Dictionary techniques
  - ✓ Context-based compression
- Lossy data compression techniques
  - ✓ Mathematical background on lossy data compression
  - ✓ Scalar and vector Quantization
  - ✓ Transform domain coding
  - ✓ Subband coding concept and wavelet-based compression
- Multimedia compression standards
  - ✓ Speech coding standards
  - ✓ Audio coding standards
  - ✓ Video coding standards

**Evaluations:** Grading is based on

- ✓ Homework projects: 40%
- ✓ Midterm exam: 30%
- ✓ Final project report: 30%

We will use the numeric grading policy. That is, students' performance will be graded from 0 ~ 100 points.

**Class website:** please check the NCTU e3 system